

REMARKS

In the Office Action mailed December 31, 2007, the Examiner noted that claims 12-22 were pending and rejected claims 12-22. Claims 12-22 remain pending for reconsideration which is requested. The Examiner's rejections and objections are respectfully traversed below.

Objection to Specification

The Office Action, in item 1 on page 2, objected to the Specification because of an alleged inconsistency between an "R" on line 10 of paragraph [0034] in the Specification and a "P" in Fig. 1. However, as indicated below, the first ten lines in paragraph [0034] of the Specification do not include a "R" as alleged by the Office Action.

[0034] Figure 2 shows a phase diagram in which the data symbols D1, D2 that are to be sent out by the receiver station MS in Figure 1 have been entered according to their real part Re and imaginary part Im. With regard to this embodiment it has been assumed that the two data symbols D1, D2 are identical, in other words exhibit the same phase and same amplitude. They have a phase angle α and an amplitude which are determined by their distance from the coordinate origin. With regard to this embodiment the channel parameter P should, as mentioned above, be a phase parameter. The value of the channel parameter P is an angle β . The processing unit PUM of the receiver station MS now modifies the angle α of the first data symbol D1 by increasing this by the angle β . This produces the resulting first data symbol D1' with the phase angle $\alpha + \beta$. The phase of the second data symbol D2, which likewise corresponds to the

Accordingly, withdrawal of the objection is respectfully requested.

Objection to Claims

The Office Action, in item 2 on page 2, objected to claims 13-20 because claims 13-20 recite "A method" instead of "The method". However, nothing was cited in 35 U.S.C. or 37 C.F.R. that requires use of the definite article at the beginning of a dependent claims, as asserted by the Office Action. Examiner is respectfully requested to provide such support or withdraw the objection.

Rejection under 35 U.S.C. § 112

In item 4 on page 2 of the Office Action, claim 16 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite, because the limitation "opposite mathematical operation" was unclear. Attention is respectfully directed to paragraph [0020] of the Substitute Specification which describes "opposite mathematical operation" as recited in claim 16. Particularly,

paragraph [0020] describes that the first data symbol, for example, the parameter is changed by *addition* of the value of the channel parameter of the first transmitting channel and the parameter of the second data symbol is changed by *subtraction* of the channel parameter. Therefore, a person having ordinary skill in the art would clearly understand that "opposite mathematical operation" as recited in claim 16 corresponds to mathematical operations based on addition and subtraction.

If the Examiner prefers that claim 16 use the synonymous term, "inverse mathematical operation", and the application is otherwise in condition for allowance, claim 16 may be changed by Examiner's Amendment. If neither term is considered acceptable, the Examiner is respectfully requested to contact the undersigned by telephone prior to issuing another Office Action to arrange an Interview to discuss what language would be acceptable.

It is submitted that claim 16 fully satisfies the requirements under the second paragraph of 35 U.S.C. § 112. Accordingly, withdrawal of the rejection is respectfully respected.

Rejection under 35 U.S.C. § 102

In item 3 on page 6 of the Office Action, claims 12-22 were rejected under 35 U.S.C. § 102(e) as being anticipated by Bergel (U.S. Patent Publication No. 2003/0017835).

Bergel is related to wireless communication systems that use channel estimation in closed loop transmit diversity modes (see Bergel, Abstract and paragraph [0001]). Particularly, Bergel describes estimating transmission patterns in wireless communication systems while operating in closed loop transmit diversity modes (see Bergel paragraph [0011]).

However, it is submitted that Bergel does not teach or suggest

adjusting a symbol parameter of at least a first data symbol, to be transmitted from the receiver station to the sending station by way of a second transmitting channel, as a function of the channel parameter for communication of the channel parameter to the sending station

(claim 12, lines 7-9), where "the channel parameter" is "a channel parameter of the first transmitting channel" (claim 12, line 5). Rather, Fig. 1 of Bergel illustrates a channel estimator, channel predictor, and a feedback generator, described in paragraph [0023] of Bergel as:

The channel estimator 55 provides the channel estimations for the first and second antennas 30(1), 30(m) shown in Fig. 1. In turn, the channel predictor predicts 57 respective channel propagation paths from the channel estimations for the first antenna 30(1) and the channel estimations for the second antenna 30(m). The feedback data generator 60 selects one or more *antenna weight values* from a predetermined set of weights for the first and second antennas 30(1) and 30(m) and calculates the feedback information (e.g. selected weights) to be transmitted over the feedback channel 35 through a transmit interface 65.

Stated another way, Bergel describes using selected weight values of antennas to be transmitted over the feedback channel.

In contrast, claim 12 requires "*adjusting a symbol parameter* of at least a first data symbol ... as a function of the channel parameter for communication of the channel parameter [of the first transmitting channel] to the sending station". Bergel does not teach or suggest the above-quoted feature because Bergel is merely concerned with selecting one or more weight values for the first and second antennas and calculating the selected weights to be transmitted over the feedback channel. Nothing has been cited or found in Bergel that suggests "adjusting" anything using the weights that are transmitted over the feedback channel.

Further, Bergel does not disclose "receiving a signal in a receiver station by way of a first transmitting channel from a sending station ... [and] determining, by the receiver station, a channel parameter of the first transmitting channel" (claim 12, lines 3-5), because in Bergel, the weights of the antennas are sent directly over a feedback channel. By using a separate channel to send this information, there is no need for and no suggestion of "determining ... a channel parameter of the first transmitting channel" for doing anything done based on "a function of the channel parameter" (claim 12, last 2 lines).

Thus, in view of the foregoing, it is submitted that claim 12 is patentable over Bergel. Further, the dependent claims 13-20 are patentable over Bergel for at least the same reasons as base claim 12.

Claim 21 recites

an adjustment unit changing a symbol parameter of at least one data symbol, to be transmitted from said receiver station to the sending station by way of a second transmitting channel, as a function of the channel parameter of the first transmitting channel for communication of the channel parameter to the sending station

(claim 21, lines 7-10). Therefore, it is submitted that claim 21 is patentable over Bergel for reasons similar to those discussed above with respect to claim 12.

Claim 22 recites "a receiver unit receiving from the receiver station at least one data symbol having a symbol parameter adjusted for communication of a channel parameter of the first transmitting channel as a function of the at least one channel parameter" (claim 22, lines 5-7). Therefore, it is submitted that claim 22 is patentable over Bergel for reasons similar to those discussed above with respect to claim 12.

Summary

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims patentably distinguish over the prior art. There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

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Date: March 31, 2008

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